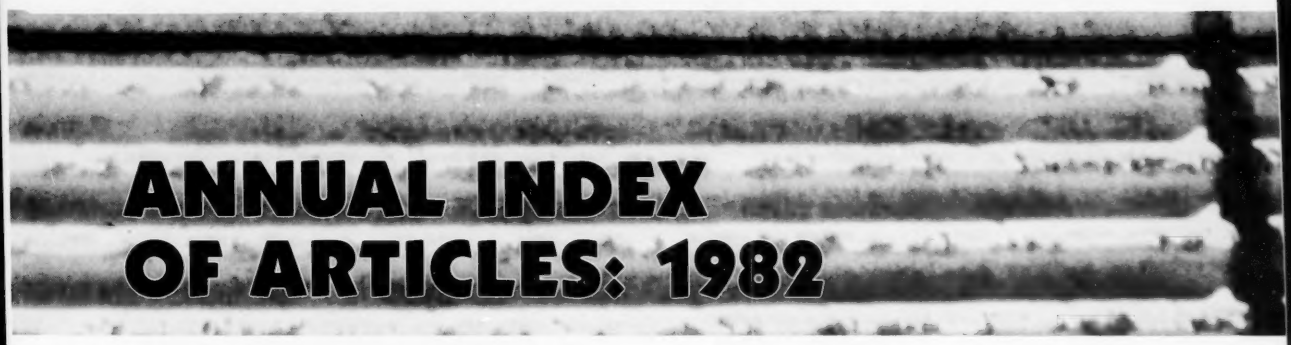

ANNUAL INDEX OF ARTICLES: 1982

ADMIXTURES *(see also* **CALCIUM CHLORIDE)**

How Super Are Superplasticizers?: Transformation of stiff concrete into flowing concrete by adding superplasticizers instead of water. Explains what they are, how they work, and how they are used. Effects on properties of fresh and hardened concrete are detailed. **4 pp; 82:409**

Nonchloride Accelerators: Some Case Histories: Use of this type of admixture has allowed acceleration of curing without major concern over corrosion of reinforcement in the concrete. **2 pp; 82:789**

ARCHITECTURAL CONCRETE

Atlanta's Concrete World: Notable concrete architecture of Atlanta, host to World of Concrete '82, is pictured and described, with attention drawn to construction and finishing techniques used. **5 pp; 82:9**

Mechanical Tooling of Concrete: Tooling techniques and equipment are simpler today than formerly. New generations of hand tools and compact power supply offer a direct and controlled means of producing surface texture. **3 pp; 82:39**

Architectural Concrete Legacy—Bucks County, Circa 1910: On the outskirts of Doylestown, Pennsylvania stand three medieval-looking buildings locally referred to as the "Mercer Mile." A 27-room concrete mansion, a pottery and tile works, and the Mercer Museum are pictured and construction methods are described. **4 pp; 82:561**

Architectural Concrete Serves As Shear Wall: Denver's tallest totally cast-in-place building is the Barclay Towers. To maximize valuable interior space, exterior walls were designed as load-bearing shear walls, eliminating the need for curtain walls and saving over $1.1 million. **2 pp; 82:571**

Some Unusual Architectural Finishes: The photos demonstrate several exotic finishes that have been used in Europe. A discussion of the methods for producing the finishes accompanies the photos. **3 pp; 82:575**

Architectural Concrete Integrates Park and Police Headquarters in Florida: The terraced roof of the partially earth sheltered police headquarters serves as a municipal park, complete with sizeable plantings and lounge areas. A fluted bushhammered finish in combination with smooth-rubbed concrete bands was used for both interior and exterior areas. **2 pp; 82:587**

Selected Books on Architectural Concrete. **2 pp; 82:596**

ASSOCIATIONS

Concrete Industry Organizations: Addresses and phone numbers of national, international, state, regional and local organizations involved in the concrete construction industry. **5 pp; 82:966**

Sixteen Associations Cosponsor WOC: History of growth of cosponsorship for World of Concrete from 1975 to 1982. **5 pp; 82:998**

AUXILIARY MATERIALS

Ferrocement Frames Stained Glass: Sculpted standing ribs made of a cement-sand mixture and reinforced with steel support colored slab-glass segments. **4 pp; 82:193**

BASEMENTS

Poor Concrete Paved the Way for Wood Foundations in Wisconsin: Due to careless concrete work, treated wood encroaches on a once-exclusive concrete market for homes. **1 p; 82:654**

CALCIUM CHLORIDE

Playing the Percentages with Calcium Chloride: Percent calcium chloride, chloride ion, soluble chloride—here is an explanation of what these terms mean and how they are related. **1 p; 82:775**

Chloride Content Limits Recommended by ACI Committee 201: A slight relaxation of limits set up in a 1977 ACI report. This article shows ACI Committee 201's recommendations for 1977 and those proposed by the 1982 task force. Article includes a glossary of chloride types and concludes with ACI 318 recommendations. **3 pp; 82:777**

The Chloride Scare: An explanation is offered for the overreaction to the use of chloride-bearing materials in mixing concrete. **1 p; 82:785**

Effects in the United Kingdom of Limiting the Use of Calcium Chloride in Concrete: The consensus is that calcium chloride admixtures should continue to be prohibited for most concrete work. **2 pp; 82:794**

Current Trends with Concrete Accelerators: Voices concern about calcium chloride's contribution to corrosion. New admixtures have formulas based on calcium nitrite, formic acid, calcium formate and the like. Many of them act as both accelerators and water-reducers. **2 pp; 82:796**

Corrosion—Do Chloride Accelerators Promote It?: It is the soluble chlorides that contribute to corrosion of metal in concrete. Research is cited that shows most chloride from accelerators becomes *insoluble* at an early age. Includes a bibliography of 15 references. **2 pp; 82:802**

Readers Argue Against Severe Restrictions on Chloride Admixtures: Discussions have been excerpted from detailed letters received recently from six industry sources. **3 pp; 82:805**

Pros and Cons of Chloride Limits: A Comparative Summary: Arguments from various sources deal with the general idea of tighter limits, not the exact level at which limits ought to be set. **3 pp; 82:811**

CEMENT

Calcium Aluminate Cement Concrete: Rarely used for cast-in-place structural work except for emergency repairs and

foundation construction, the calcium aluminate cements may be specified for cold weather work; resistance to high temperatures; rapid hardening; resistance to mild acids and alkalies; and resistance to sulfates, seawater, and pure water. **3 pp; 82:437**

Blast-Furnace Slag As a Mineral Admixture for Concrete: Finely ground slag may be blended with portland cement or it may be added at the mixer as a replacement for part of the portland cement. Laboratory testing and field experience show that properly proportioned slag-portland cement concretes have some very desirable properties. **2 pp; 82:448**

COLORED CONCRETE

Five Ways to Color Concrete: The advantages and disadvantages of colored cements and admixtures, pigments, stains and dry-shake color are discussed. Article serves as a guide to selection of appropriate technique for a particular job. **5 pp; 82:19**

COMPACTING *(see* **VIBRATING)**

CUTTING AND GRINDING

Sawing and Drilling Achievements: A wide variety of applications, from repairing an aluminum smelting plant to saving a giant mosaic tile mural. The cutting procedures are described. **3 pp; 82:82**

DEMOLITION

Nonexplosive Demolition of Concrete and Rock: When mixed with an appropriate amount of water and poured into holes drilled in rock or concrete, demolition agent hardens and expands, generating cracks in the process. The agent comes in powder form and is said to contain no harmful chemicals. **1 p; 82:366**

Pavement and Parking Deck Demolition: Two cases are reported where backhoe-mounted demolition hammers were effective when other equipment would have been too damaging or too slow. **1 p; 82:368**

DESIGN

Taller Bearing Wall Can Save Time and Money: Use of an 8-foot-high bearing wall rather than one 3 feet high in the construction of a 20-foot-high brick and block industrial building. Treated architecturally, the higher bearing wall can be very attractive. **1 p; 82:302**

EARTH-SHELTERED CONSTRUCTION

Concrete Shells Reinforced with Curved Steel Plates Support Earth-sheltered Home: Curved steel plates lapped together serve as both reinforcement and the forms onto which low-slump shotcrete is sprayed. **1 p; 82:43**

Energy Savings with Passive Solar and Earth Sheltering: The local utility company estimates that 2294-square-foot passive solar, earth-sheltered homes built near Indianapolis will cost $89 a year to heat and about $45 a year to cool. The design of the homes allows collection and storage of enough heat to maintain 65-degree interior temperatures for up to 3 overcast winter days. **1 p; 82:364**

Basic Soil Considerations for Earth-sheltered Construction: The earth is an actual building component rather than just a support. In-depth information is provided on important considerations such as vertical loads, lateral earth pressures, settlement, backfilling and heaving. Numerous diagrams and tables. **8 pp; 82:485**

Do Your EARTH-SHELTERED HOMEwork: Building an earth-sheltered home is no do-it-yourself project. Get professional help on considerations such as heavy roof loads, drainage, deflection and waterproofing. **3 pp; 82:493**

Planning Footings for Earth-sheltered Construction: Factors a designer must consider and how he handles them. Increasingly, building officials are requiring that footings be designed by a registered engineer or architect. **4 pp; 82:499**

Precast Panels Form Earth-sheltered Homes: A system for constructing an earth-sheltered home with panels that may be cast in a contractor's central yard or possibly in a mobile casting yard. **2 pp; 82:507**

Shotcrete and Foam Insulation Shaped Over Inflated Balloon Form: Thin shell earth-sheltered structures can be constructed by spraying the interior of an inflated plastic balloon with polyurethane foam, then applying steel-fiber-reinforced shotcrete on the inside surface of the foam. The plastic balloon is removed and a plastic coating applied to the exterior of the shell to protect the polyurethane insulation. **2 pp; 82:511**

Codes, Zoning and Financing: Impediments to Earth-sheltered Construction: Regulations and financing practices that were originally established for aboveground construction are now hampering or prohibiting earth-sheltered construction and should be changed. The assessment was made by the Underground Space Center at the University of Minnesota at the request of HUD. Two parts: **3 pp; 82:515; 3 pp; 82:589**

Construction Details for Earth-sheltering: Precisely detailed drawings show walls, roof structures and parapets with insulation, waterproofing and drainage systems. Methods and materials of construction are explained. **3 pp; 82:521**

Earth-sheltered School in Florida: The school was built entirely above ground, then covered and bermed with earth. The entire design concept was one of energy conservation. **1 p; 82:534**

Design Information for Concrete Arch System: Either shotcrete or low-slump concrete is applied to modular steel sheets that function as both formwork and reinforcement. The system originated in Switzerland for use as tunnel lining but has been used successfully in many other applications. **3 pp; 82:581**

EDUCATIONAL MATERIALS AND PROGRAMS

Hands-on Experience Highlights PCA Courses: The Portland Cement Association believes that the best way to learn how something is done is to actually do it and the best way to understand how something works is to actually see it work. Most of the eleven courses offered at PCA are based on this method of teaching. The techniques for two prominent courses *(Basic Concrete and Related Field Practice,* and *Sales Training I)* are described here to show how the student involvement plan works. **2 pp; 82:849**

Training and Certifying Concrete Technicians and Craftsmen: The American Concrete Institute Certification Committee has developed a uniform training and voluntary certification program for Concrete Field Testing Technicians, Grade I, which is available for sponsorship by local groups. ACI materials such as manuals, self-study workbooks and video tapes for use in conducting the certification program are noted. Other educational efforts by ACI are discussed. **2 pp; 82:855**

Videotape Systems Aid in Employee Training: Many tapes professionally prepared are noted as supplements to tapes made in-house for training not only construction workers in the field but also office management and sales personnel. Equipment needs for such filming are described and costs provided. **2 pp; 82:857**

Regional Seminars Presented by World of Concrete Conferences: In addition to the 40 to 50 half-day seminar programs offered each year at the World of Concrete Exposition, World of Concrete Conferences presents single- or multiple-day seminars in many cities over the course of a year. Seminar topics cover basic information about constructing with concrete, more advanced data, or new technology. **2 pp; 82:859**

ENERGY CONSERVATION

Concrete Helps Extract Energy from Seawater: One of the many uses for concrete in the search for economic sources of energy may well involve prestressed lightweight aggregate concrete pipes going down 3000 feet into the

ocean to bring up huge flows of cold seawater—as much as 80,000 gallons per second—and using the difference in its temperature and that at surface zones to operate what amounts to a large steam turbine. **2 pp; 82:877**

FAILURES

Bureau of Standards Reports on Florida Condominium Collapse: Insufficient punching shear capacity at fifth floor level was said to be the cause. **1 p; 82:90**

Understanding Why Failures Occur: Mistakes, omissions, misunderstandings created by the contract documents, and other faulty communications cause many construction failures. Some worthwhile suggestions are made on how to reduce the incidence of failure. **3 pp; 82:345**

FIBER REINFORCED CONCRETE

Another Wrinkle in Steel Fiber Reinforcement for Concrete: The trend toward use of mechanically deformed steel fibers is discussed. A chart shows typical flexural load-deflection behavior for concrete containing fibers varying from 1 to 3 inches in length. **3 pp; 82:451**

GFRC: Recent Uses and Developments: Glass fiber reinforced concrete is emerging as an important construction material because of worldwide availability, comparatively low-cost raw materials, simple fabrication processes and its suitability as a replacement for asbestos in many applications. This article concerns applications and the technology involved in using alkali-resistant fibers, polymer-modified GFRC which resists detrimental alkali crystal growth, and GFRC to which man-made aramid fibers have been added. **3 pp; 82:649**

GFRC Used to Renovate Facade of Landmark Hotel: Glass fiber reinforced concrete was used to renovate intricate features of an Italian Renaissance style hotel in Seattle. Glass fibers and a cement-sand-water matrix were sprayed into molds to create ⅝-inch thick facing panels. **1 p; 82:664**

FLOORS

Architects Find Duct System in Floor Slab Simplifies Relocating Wiring and Outlets: Underfloor ducts are incorporated into the structural slab or in a concrete topping placed over the slab. Cost is reported competitive with cellular steel decks. **1 p; 82:639**

FLY ASH *(see* **POZZOLANS)**

FORM LINERS

Reusable Plastic Form Liners: Liners can be molded to produce almost any desired texture or pattern; many are available as stock items. Table compares cost and properties of the three principal classes: thermoplastic, thermosetting plastic and elastomeric. **4 pp; 82:51**

Custom Form Liners: Discusses cost of having your own unique design made, how custom liners are produced, and the numerous materials from which to choose. **2 pp; 82:567**

FORMING

Self-raising Forms Pull Themselves Up: In the construction of high, uniformly shaped concrete structures, forms that pull themselves up in sequence with the casting operation cut crane costs and construction time. How they are used in stages, one lift at a time, is explained, along with case history from Texas Commerce Tower. **5 pp; 82:173**

Custom Forms Shape Prison Cells: Ganged custom-made steel forming units speed setting and stripping, thereby resulting in efficient use of crane. Other economies include faster placement of concrete, a minimum number of form ties, and a smooth as-cast finish. **2 pp; 82:349**

FORMS AND FORMING MATERIALS

Column Forms Withstand Pumping from the Bottom: Strong forms with textured liners were designed for pumping concrete from the bottom for 36-inch-diameter architectural concrete columns. **2 pp; 82:182**

Forming and Shoring with Aluminum: The performance of this lightweight, recyclable metal in supporting heavy formwork is achieving a growing acceptance. Flying deck forms, wall and column forms are described. **4 pp; 82:185**

Precast Panels Are Stay-in-Place Forms for Slabs: Precast concrete panels stiffened by small, integral steel trusses act as both the soffit of the floor and as forms for a cast-in-place topping. The undersurface produces a ceiling ready for finishing. **2 pp; 82:355**

HISTORY

History and Heritage: First Motor Truck Delivery of Concrete (1913); High Discharge Transit Mixers Arrive (1937); Barrels of History. **2 pp; 82:98**

History and Heritage: Concrete Houses (1918); Cement Walks Constructed to Withstand the Climate (1895). **2 pp; 82:218**

History and Heritage: Million-Dollar Bridge Completed in 1907 Now Honors Taft; Early Reactions to the Concrete Vibrator. **2 pp; 82:304**

History and Heritage: Mass Concrete in the Good Old Days; Did Fly Ash Replace Cement at Hungry Horse Dam? **3 pp; 82:389**

History and Heritage: The Unmythical Life of a Concrete River-God; A Monumental Foundation for a Founder's Monument. **2 pp; 82:600**

LANDSCAPING

Concrete Shaped to Natural Rock Forms for Zoo Landscapes: Describes precast, glass fiber reinforced concrete rocks at the Minnesota Zoological Garden and steel reinforced shotcrete rocks at the North Carolina Zoological Park's African lion exhibit. **2 pp; 82:656**

MANAGEMENT

Approval of Shop Drawings Does Not Indicate Approval of Changes: A discussion of considerations bearing directly on interpretation of the term "architect's approval" in regard to shop drawings submitted by contractors. **1 p; 82:864**

MARKETING

Earth Sheltering: A Growth Market for Concrete Constructors: Cost of model earth-sheltered home in Wisconsin with breakdown of amounts of concrete used at various locations in the home. Floor plan and interior and exterior views of home are shown. **3 pp; 82:73**

Mr. Concrete: Marketing Concrete Know-how at the Retail Level: Do-it-yourself store sells or rents tools and materials relating to concrete, as well as the concrete itself. Customer instruction sheets are available, but if the customer prefers not to do the work himself Mr. Concrete will subcontract the work to local contractors. **2 pp; 82:206**

A Large, Untapped Market: Concrete Parking Lots: Most buildings need a parking lot which is generally three to four times the size of the floor slab. The Portland Cement Association has promotional brochures and desk-top displays to help promote this use of concrete. **3 pp; 82:279**

World of Concrete: Concise History of a Winner: How an "equipment display" held in the parking lot of a ready mix plant near Miami in 1974 developed in the succeeding eight years into a major annual exposition of the products of several hundred equipment manufacturers from over the world. **2 pp; 82:845**

MATERIAL HANDLING

What is the Best Way to Transport Concrete?: Cost-effective methods depend on job conditions. A list of suitable ways for different job conditions is provided. **3 pp; 82:697**

Climbing Tower Crane and Extended-Life Superplasticizer Solve Difficult Placement Problems: Details concerning construction of New York City's 58-story Trump Tower, which was designed with a complex combination of core walls, shear walls and columns. **2 pp; 82:723**

MIX DESIGN

Special Concrete Mix Helps Set Home-building Record: About 350 workmen, including 10 admixture specialists, completed a 1900-square-foot model home in 4 hours and 18 minutes. **1 p; 82:203**

Water-Cement Ratio Data Still Good, 7-Bag and 9-Bag Mixes Show Nearly Equal Strengths: It's not the amount of cement that determines the strength; it's the quality of the cement paste. **1 p; 82:286**

New ACI Standard for Mix Proportions Includes Mass Concrete: The 1981 revision of the long-standing ACI 211 Standard includes two methods for selecting and adjusting proportions for normal weight concrete; recommends mass concrete proportioning methods with aggregate as small as ¾ inch; and explains how to treat water-cement ratio with pozzolans. **2 pp; 82:666**

PAVING

Do It the Easy Way: An interview with paving contractors whose interest is better quality and higher productivity at lower effort and cost. Both management and technical subjects. **5 pp; 82:243**

Paving Dowel Bars Placed by Automatic and Semiautomatic Setters: A system is described which implants 24 dowels at a time in 10-inch-thick, 24-foot-wide reinforced concrete pavement. **1 p; 82:253**

Concrete Paving Technology for the Eighties: Refinements and modernization of both techniques and equipment for paving are noted. **3 pp; 82:255**

Post-tensioned Concrete Overlay of Airport Runway: A pilot project at O'Hare airport to test the practicality of such overlays for airport runways yielded several affirmative conclusions. **4 pp; 82:261**

Build Better Parking Areas of Concrete: Comprehensive discussion of major considerations in building parking areas: design for greatest efficiency; design of the pavement's thickness, jointing, steel reinforcement, and concrete mix; paving procedures and marking and signing. **5 pp; 82:269**

Reinforced Concrete Overlay Covers Reinforced Interstate Pavement in Missouri: Describes original CRCP and 6-inch-thick reinforced overlay, said to be first continuously reinforced overlay over continuously reinforced pavement. **2 pp; 82:291**

Concrete Replaces Asphalt on Interstate: An innovative inlay design for resurfacing a pavement that had to be maintained at its original thickness because of clearance limitations between pavement surface and overhead bridges. **1 p; 82:293**

Pavement Rehabilitation and Recycling Methods Are Examined: Summarizes information presented at a 3-day national seminar in September 1981 at St. Louis. **2 pp; 82:454**

An Injustice in the Making: Questions wisdom and fairness of the Federal Highway Administration's adoption of revisions in the "AASHTO Interim Guide for Design of Pavement Structures—1972" in such a way as to impose both technical and economic restrictions on concrete versus asphalt for pavement structures. **1 p; 82:647**

Standard Issued for Econocrete Subbases for Airports: Econocrete has been used for some time for composite pavements, subbases, shoulders, street pavements and parking lots. The subbases have been used in many airports built to specifications developed by the American Concrete Pavement Association (ACPA) or by consultants. A digest of the Federal Aviation Administration Item P-306, "Econocrete Subbase Course," a new standard for the construction of airport pavements, is presented. **2 pp; 82:860**

POZZOLANS

Fly Ash in Concrete: Part I—What It Is and How It Works: Effect on Properties of Fresh and Hardened Concrete. **3 pp; 82:417**

Fly Ash in Concrete: Part II—How It Is Used: Proportioning and Testing. **3 pp; 82:422**

Silica Fume: The physical and chemical properties of this pozzolan and possible applications of the material in concrete are briefly reported. Because of relatively limited supplies, silica fume should be used judiciously and for specialized products. **3 pp; 82:443**

PRECASTING

Mechanical Pile Splice Separates Tensile and Compressive Forces: A Swedish system for splicing precast concrete piles permits length adjustment of piles at short notice to suit different soil conditions. **1 p; 82:96**

PUMPING

Vertical Pumping Record: During construction of the Texas Commerce Tower, 80 cubic yards of concrete per hour were pumped in the lower 20 floors and more than 40 per hour at the highest levels. A hydraulic, self-lifting form system was used to accommodate the pump's high output. **2 pp; 82:59**

Pumping Concrete: Line Pressure and Equipment Choice: Figuring the best combination for smooth, efficient operation involves a close look at major factors that affect pipeline pressure: pumping rate, line diameter, horizontal and vertical distances, configuration (including reducing sections), and slump. **4 pp; 82:629**

Separate Placing Booms Aid in Concrete Pumping Operations: When erected by crane atop a high-rise, placing booms can eliminate much handwork and put concrete right where you want it, not just where the pump line happens to end. **2 pp; 82:635**

Should the Pumping Contractor Know More About Mix Design?: An individual experienced in both ready mix and pumping operations believes both the general contractor and the pumper need to know some fundamentals of concrete technology. **2 pp; 82:721**

READY MIXED CONCRETE

Splitter Breaks Up Hard Problem: Removal of hardened concrete from a truck mixer using a special hydraulic splitter. **1 p; 82:208**

REPAIRING *(see also* **PAVING)**

Latex-modified Concrete Puts Soldier Field Back into the Game: How the tread-and-riser system of the stadium was refurbished by placing latex-modified concrete over the original structure to form a new base for seating. Cost was $35 million instead of $200 million for demolition and replacement of the stadium. **3 pp; 82:641**

Battelle Proposes Building Rehabilitation Study: Aim is to find ways to cut cost of rehabilitating residential and nonresidential structures by using materials and methods designed for rehabilitation rather than for new construction. **1 p; 82:681**

RESIDENTIAL

Residential Concrete Floor: The Thermal Solution: An innovative first floor of concrete that will make more efficient use of energy is drawing attention to the site of a new home in Naperville, Illinois. Prestressed beams supporting standard wall form panels served as formwork to build the slab without shoring. **3 pp; 82:841**

SAFETY

Prevention and Education: Twin Cornerstones of Contractor's Safety Program: Details of caution and prevention practiced by Inland Construction. Safety does not come naturally; it must be learned—and taught. **3 pp; 82:333**

Let's Stamp Out Concrete Burns: Studies of concrete burns suggest that such injury results from ignorance of, or lack of respect for, the potential chemical dangers of concrete. Pointers are given for minimizing injury. **2 pp; 82:361**

Field Supervision: An Important Part of Construction Safety: While field supervision is very low in some people's order of priorities, it is really the owner's and designer's last line of defense. Office engineers should change their attitude toward field people. **1 p; 82:739**

SECURITY

Curtailing Traffic in Hot Iron: Some measures to reduce the alarming number of construction equipment thefts. List shows equipment thieves' most wanted construction items. **3 pp; 82:339**

SHOTCRETE

Training for Shotcrete Nozzlemen and Tank Builders: A builder of circular prestressed tanks considers job and safety training crucially important to its success. Training requirements apply to all phases of the operation: office staff, shop workers, field workers. Much training of nozzlemen and tank builders is done in-house, but employees are financially aided and encouraged to attend seminars, workshops or community college courses that improve their job qualifications. **3 pp; 82:851**

SLIPFORMING

Slipforming a Post-tensioned Silo: How a 100-foot-diameter, 200-foot-high cement clinker silo was constructed in just 12 days by two 46-man crews working around the clock. **3 pp; 82:45**

Slipformed Ring Beam: In the construction of cement silos, the ring beams were slipformed integrally with the walls of the silo. Fully assembled steel cone hoppers could then be set in place on the supporting ring beam. **2 pp; 82:64**

Utah Dam Faces Slipformed: Full scale test of a new technique that includes slipformed fly ash concrete facing made with slipform paving equipment, and roller compacted concrete in the base and core of the dam. **2 pp; 82:713**

SUMMER CONCRETING

Concrete Strength Loss and Slump Loss in Summer: Explanations and remedies for strength loss as it relates to slump loss in warm weather. Strength loss is avoided by control of water-cement ratio. Remedies for slump loss include elimination of delays by careful scheduling, cautious use of conventional retarding admixtures, reduction of concrete mix temperatures and use of superplasticizers. **3 pp; 82:429**

THIN SHELL

Spiral Dome Construction: A dome form is constructed of 9-foot polystyrene foam logs welded together by a fusion head on a rotating boom. The foam form remains permanently in the structure as insulation for an overlying shotcrete shell. **1 p; 82:660**

TILT-UP *(see also* **VACUUM DEWATERING)**

Tilt-up Questions Answered: The 24 questions and answers that make up this article were collected during World of Concrete seminar programs chaired by Peter D. Courtois. **6 pp; 82:29**

Exposed Aggregate Tilt-up Panels Curved to Shape Building Corners. **1 p; 82:36**

TOLERANCES

A Time Bomb in Floor Tolerances?: Reputable concrete floor contractors may be in trouble because of failure to meet floor tolerance specifications because high-rise, narrow-aisle lift trucks used in material handling today will not function properly on unflat floors. Equipment that quickly and accurately measures and automatically graphs floor flatness is illustrated, and its use explained, in this article. **4 pp; 82:865**

TOOLS

What Makes a Good Power Trowel?: In selecting a power trowel, check its engine, gear box and power takeoff, spider plates and handle. **2 pp; 82:717**

UNUSUAL USES OF CONCRETE

Concrete Paddleboat Wins Race; Playing Cricket on Concrete; Photo Album of Concrete Sculpture. **2 pp; 82:987**

VACUUM DEWATERING

Vacuum Dewatering Speeds Tilt-up Erection: Tilt-up, sandwich-type concrete wall panels with a core of rigid insulation were cast at the jobsite for a home in Massachusetts. Dewatering of the interior side of the panels shortened curing time and speeded construction. **2 pp; 82:201**

VIBRATING

Choosing a Concrete Vibrator: For internal vibrators, frequency, amplitude, power sources and other factors must be considered. **4 pp; 82:701**

What is Roller Compacted Concrete?: Useful in the construction of mass concrete structures such as dams, foundations, and possibly for rapid placement of highways and runways, roller compacted concrete is specially proportioned low-slump concrete that can be transported, placed and compacted using regular earth-moving and rock-fill construction equipment. **2 pp; 82:709**

Vibration of Superplasticized Concrete in Tunnel Forms: In a Swedish project involving use of tunnel forms for single-family residences, external vibration of forms containing superplasticized concrete saved about 80 percent of labor ordinarily needed for placing concrete. The slight increase in cost should be weighed against benefits obtained. **2 pp; 82:734**

WINTER CONCRETING

Concrete Slab Cast on Arctic Permafrost: Special insulation was used under a heavy equipment maintenance facility at Prudhoe Bay to ensure that the frozen ground stayed frozen when heat was turned on inside the building. **2 pp; 82:780**

Foam Blankets for Curing and Insulating: The efficiency and cost of closed-cell insulating blankets are compared with these factors for conventional fiber insulation blankets for protecting concrete during cold weather. **2 pp; 82:787**

CORRECTIONS TO ITEMS PUBLISHED DURING THE 1982 VOLUME YEAR

Self-raising Forms Pull Themselves Up, February, page 180. The January 1982 issue of CONCRETE CONSTRUCTION should have been quoted rather than the January 1981 issue for further information on the construction of the Texas Commerce Tower.

The Concrete/Asphalt Difference, July, page 599. Maintenance figures should have been in *cents* instead of dollars as shown, and the 14-year total maintenance figure total should have been $1.3 million, not $130 million.

In the **"poll on chloride limitations"** coupon of the October 1982 issue (page 813), the first line should read: "I favor limitations on chloride in *hardened* concrete that are . . ." to be consistent with the referenced proposals on page 779.